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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/594,096

09/25/2006

Yasushi Okubo

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EXAMINER

HIGGINS, GERARD T

ART UNIT

PAPER NUMBER

1794

MAIL DATE

DELIVERY MODE

12/30/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/594,096	Applicant(s) OKUBO ET AL.	
	Examiner GERARD T. HIGGINS	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 November 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 5,6 and 9-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,7 and 8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 September 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/05/2006, 04/06/2007, and 11/14/2008</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Group I, claims 1-4, 7, and 8 in the reply filed on 11/14/2008 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
2. Claims 5, 6, and 9-17 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to nonelected inventions, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 11/14/2008.

Priority

3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: **13**. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in

Art Unit: 1794

compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

5. The disclosure is objected to because of the following informalities:
 - a. On page 1, line 24, the word "paler" appears to be incorrect.
 - b. On page 4, line 14, the phrase "a as barrier layer" is awkward.
 - c. On page 6, lines 15-18, this passage is awkward and unclear.
 - d. On page 9, line 12, which layer is "the thin layer?"
 - e. On page 9, line 28, the phrase "soft ware" appears to be incorrect.
 - f. On page 10, lines 19-20, the phrase "may be constituted by single layer of plural layers" is awkward.
 - g. On page 10, line 23, what are "the films?"
 - h. On page 13, lines 11-18, this passage is awkward and unclear.
 - i. On page 27, lines 23-24, the phrase "of aluminum of stainless steel" is awkward.

Art Unit: 1794

- j. On page 29, lines 21-22, the phrase "constituted by a metal stuff" is awkward.
- k. On page 31, line 7, the phrase "by an in organic material" is awkward.
- l. On page 51, lines 19-21, is it correct that the substrate **5** has the same constitution as the transparent plastic film **100**? The substrate **5** is multiple layers.
- m. On page 68, lines 17-22 (legend for Table 2), is the point *1 correct? It appears the inventive examples are reduced continuously or stepwise. Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-4, 7, and 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the other surface of the transparent conductive film" in the seventh and eighth lines of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim 3 recites the limitation "the other surface of the transparent plastic film" in the fourth and fifth lines of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1, 4, 7, and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Ito et al. (JP 2003-303520), machine translation included.

With regard to claims 1, 4, and 8, Ito et al. disclose a transparent conductive film [0001]. The transparent conductive film comprises a transparent base material, which reads on applicants' transparent plastic film, a gas barrier layer, and a transparent conductive layer [0017]. The gas barrier layer may be formed on the transparent base film with the transparent conductive layer formed on top of the gas barrier layer [0017]. The transparent base film maybe a cellulose ester [0110], the gas barrier layer may be an oxide with a mixture of silicon and titanium [0091], and the transparent conductive layer may be ITO [0094].

With regard to the limitation that the refractive index is controlled to decrease stepwise from a surface of the transparent conductive film having the transparent conductive layer to the other surface of the transparent conductive film, the Examiner notes that ITO will inherently have a refractive index of 2.05, a 1 to 1 mixture of oxides of silicon and titanium will inherently have a refractive index of 1.76, and a cellulose ester film will inherently have a refractive index of 1.47-1.50 (1.48 according to

Art Unit: 1794

applicants' specification). This device of Ito et al. will inherently meet the limitations in claim 1.

With regard to claim 7, cellulose acetate will inherently have a T_g of greater than 180 °C.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ito et al. (JP 2003-303520), as applied to claim 1 in view of Yuasa et al. (JP2000-192246) and Veligdan (6,307,995).

Ito et al. disclose all of the limitations of applicants' claim 1; further, they disclose the specific arrangement of layers claimed in claim 2; however, they fail to disclose that the gas barrier layer has a continuous or stepwise decrease in its index of refraction when going from a surface in contact with the transparent conductive layer to a surface in contact with the transparent plastic film.

Yuasa et al. teach that it is known to vary the percentage of silicon dioxide and titanium dioxide within a functionally gradient optical film [0012], [0035], and [0069].

Veligdan teaches that it is known to vary the refractive index gradually and continuously throughout an optical waveguide (Abstract); specifically, the index of

Art Unit: 1794

refraction decreases as one gets further from the central plane. This is done so specifically to reduce glare (col. 2, line 61 to col. 3, line 5).

Since Ito et al., Yuasa et al. and Veligdan are drawn to optical waveguides; it would have been obvious to one having ordinary skill in the art to make the silicon titanium gas barrier layer of Yuasa et al. a functionally gradient optical material as taught by Yuasa et al.; furthermore, it would have been obvious to vary the gradient such that the index of refraction was higher at the side contacting the transparent conductive layer than the side contacting the transparent plastic film. Veligdan teaches that this index of refraction gradient is the preferred arrangement because it reduces glare in the optical waveguide overall. Please note that one of ordinary skill would know that the transparent conductive layer would be closer to the core layer, while the transparent plastic film would be the outer protective film.

Lastly, one of ordinary skill would know to make the functional gradient material such that the index of refraction at the side contacting the ITO transparent conductive layer would most closely match that of ITO and also that the index of refraction at the side contacting the cellulose ester transparent plastic film would most closely match that of the cellulose ester transparent plastic film. This would have been known because if there was a large difference in indices of refraction it would promote internal reflections that would result in loss of light intensity. Index of refraction matching between layer divisions would promote the largest light intensity, as taught by Veligdan at col. 1, line 62 to col. 3, line 43).

Art Unit: 1794

12. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ito et al. (JP 2003-303520), as applied to claim 1 in view of Sakai et al. (JP 10-309770) and Veligdan (6,307,995).

Ito et al. disclose all of the limitations of applicants' claim 1 in section 9 above; however, they fail to disclose the layer arrangement and the refractive index trend of claim 3.

Sakai et al. disclose a transparent electric conduction sheet used in display devices [0001]. The conduction sheet, which reads on applicants' transparent conductive film, is comprised of a gas barrier film, a hardenability resin sheet, which reads on applicants' transparent plastic film, and a conducting film, which reads on applicants' transparent conductive layer [0009]. Sakai et al. give two possible laminating sequences at [0048], including "a sheet which forms a hardenability resin sheet between...a gas barrier film and a conducting film" and "a gas barrier film between a hardenability resin sheet and a conducting film." Although this passage is confusing due to translation, the Examiner is interpreting it to disclose both of these possibilities based upon the context of the overall paragraph.

Veligdan teaches that it is known to vary the refractive index continuously throughout an optical waveguide (Abstract); specifically, the index of refraction decreases as one gets further from the central plane. This is done so specifically to reduce glare (col. 2, line 61 to col. 3, line 5).

Since Ito et al., Sakai et al., and Veligdan are drawn to optical waveguides; it would have been obvious to one having ordinary skill in the art to make the transparent

Art Unit: 1794

conductive film of Ito et al. of the arrangement of Sakai et al. The results of which would have been predictable to one having ordinary skill because Sakai et al. teach the two arrangements as functional equivalents; furthermore, it would have been obvious to vary the index of refraction in the gas barrier layer such that it was lower than the transparent plastic film. Veligdan teach that this index of refraction gradient is the preferred arrangement because it reduces glare in the optical waveguide overall (col. 2, line 61 to col. 3, line 5). Please note that one of ordinary skill would know that the transparent conductive layer would be closer to the core layer, while the transparent plastic film and the gas barrier layer would be the outer layers in this arrangement.

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to GERARD T. HIGGINS whose telephone number is (571)270-3467. The examiner can normally be reached on M-F 9:30am-7pm est. (1st Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on 571-272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1794

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Gerard T Higgins
Examiner
Art Unit 1794

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